ABSTRACT

An arbiter device for a multi-port memory is provided that includes an identical address detection circuit, an OR gate circuit, a D-type flip-flop, a buffer, and a selector. The identical address detection circuit can detect if input addresses to two ports of a multi-port memory are identical with each other. The selector outputs output data on the write port and output data on the read port. When an input address to the A port of the multi-port memory is identical with an input address to the B port thereof, the operation of the B port is stopped, and data on the A port is selected and output, such that simultaneous accesses to the same address can be made. As such, an arbiter device for a multi-port memory can be provided that enables simultaneous accesses to the same address when an input address to a first port of a multi-port memory and an input address to a second port of the multi-port memory are identical.

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